Commissioner for Patents
April 22, 2008
Page 2 of 18

Serial No. 10/755,888 Confirm. No.: 1544
Art Unit: 2193 Examiner: Ali Bayat
Docket: AUS920030988US1 (4031)

AMENDMENTS TO THE SPECIFICATION

Please replace paragraph [0005] with the following amended paragraph:

[0025]   As common as digital image sensors are to electronic systems, problems of defect sensitivity, spatial error, inference error and interpolation calculations make these benefits difficult to realize. Defect sensitivity is introduced in the fabrication of the sensing array [[of]] in the conventional approach. Spatial error occurs because readings are taken at different points than the actual point interpolated; inference error takes place because each reading is not a direct observation.   And, interpolation calculations involve a great deal of two-dimensional computation to be performed on each image in real time after each exposure through mathematical algorithms used to determine an appropriate color to assign to pixels in an image. In particular, algorithms typically interpolate visual colors at various points on a grid using a checkering of red, green, and blue sensing elements. Such interpolation computation requires sophisticated processing capability to be built into the imaging device. These interpolations translate into increased hardware cost, increased energy consumption, and slower cycle time for the image capturing device.

Please replace paragraph [0012] with the following amended paragraph:

[0005]   An additional embodiment provides a machine-accessible medium to capture a digital image. The medium includes instructions, which when executed by a machine, cause said machine to perform operations, that generally include taking multiple color data readings with more than one sensing elements of an array in one collecting location during a single exposure, associating the one collecting location with a pixel position in an image to be portrayed, and determining a color value for the pixel position in the image based on the multiple color data readings. Further embodiments provide instructions determining a sensing element of the more

Commissioner for Patents
April 22, 2008
Page 3 of 18

Serial No. 10/755,888 Confirm. No.: 1544
Art Unit: 2193 Examiner: Ali Bayat
Docket: AUS920030988US1(4031)

than one sensing elements is defective, wherein the sensing element is associated with a color, is defective, and positioning the array to align a non-defective sensing element of the more than one sensing elements with the one collecting location, wherein the non-defective sensing element is associated with the color.

Please replace paragraph [0036] with the following amended paragraph:

[0005]   Turning to FIG 6, an example of a flow chart illustrates a method to capture a representation of a visual image. Method (600) begins with element 602, during which an imaging system, such as a camera, determines whether any of its sensing elements are defective. If any sensing elements are defective, then the imaging system adjusts its software to redirect its image sensor motion to include a replacement non-defective element (element 604).

Please replace paragraph [0037] with the following amended paragraph:

[0005]   After either no sensing elements are found defective or software is completed being adjusted to accommodate for defective sensing elements, color readings are taken at a collecting location with a sensing element of an array (element 606). In one embodiment, the collecting location refers to a static physical position to receive a designated light falling in that location. In some embodiments, the array is moved between readings by the width of one sensing element to allow a new sensing element to analyze the same light and thus receive the light in the collecting location (element 608). The collecting location may be defined relative to the ray of light and refer to the location where optics focus rays of light on the image sensor. In one embodiment, while the image sensor is static, the reflective optics are able to redirect light to sensing elements successively within one exposure. For example, a digital light processor including a digital micromirror device and control circuitry may redirect light to the sensing elements successively within one exposure. For as many elements and readings from the collecting position are chosen, element 6[[08]]10 follows back to element 606.

Commissioner for Patents
April 22, 2008
Page 4 of 18

Serial No. 10/755,888 Confirm. No.: 1544
Art Unit: 2193 Examiner: Ali Bayat
Docket: AUS920030988US1 (4031)

Please replace paragraph [0038] with the following amended paragraph:

[0005]   After the data readings of color and luminance are taken, the captured information is used to create image information. Mathematical algorithms may be performed to convert the data readings to pixel information (element 6[[10]]12). Then, an image is outputted (element 6[[12]]14). For example, the pixel information may be stored to memory or sent out on a bus to another memory location or coupled device.